

**What is Claimed is:**

1. A photo mask for patterning a lightning rod comprising:  
a shorting bar pattern and a plurality of pad patterns;  
an outer lightning rod pattern connected to the shorting bar pattern;  
5 an inner lightning rod pattern connected to one of the pad patterns;  
projections from each of the outer and inner lightning rod patterns, and a fine pattern  
connected between the projections; and,  
a redundancy fine pattern connected between the pad patterns.

2. A photo mask for patterning a lightning rod comprising:  
a shorting bar pattern and a plurality of pad patterns;  
an outer lightning rod pattern connected to the shorting bar pattern;  
an inner lightning rod pattern connected to one of the pad patterns; and,  
projections from each of the outer and inner lightning rod patterns, and a fine pattern  
in a '⚡' form connected between the projections.

3. A photo mask for patterning a lightning rod comprising:  
a shorting bar pattern and a plurality of pad patterns; and,  
a plurality of lightning rod patterns between the shorting bar pattern and each of the  
20 pad patterns.

4. A photo mask as claimed in claim 3, wherein each lightning rod pattern includes;  
an outer lightning rod pattern connected to the shorting bar,  
an inner lightning rod pattern connected to the pad pattern, and  
25 projections from the outer lightning rod pattern and the inner lightning rod pattern,

and a fine pattern connected between the projections.

5. A photo mask for patterning a lightning rod comprising:  
a shorting bar pattern and a plurality of pad patterns;  
5 an outer lightning rod pattern connected to the shorting bar pattern;  
an inner lightning rod pattern connected to one of the pad patterns; and,  
projections from each of the outer and inner lightning rod patterns, and a fine pattern  
connected between centers of the projections.

6. A photo mask as claimed in claim 5, wherein a distance between the projections is  
greater than a distance between the outer lightning rod pattern and the inner lightning rod  
pattern.

7. A photo mask set for patterning a lightning pattern comprising:  
a first photo mask having a shorting bar pattern and an outer lightning rod pattern  
connected to the shorting bar pattern formed thereon; and,  
a second photo mask having a pad pattern and an inner lightning rod pattern  
connected to the pad pattern formed thereon.

8. A photo mask set as claimed in claim 7, wherein the first photo mask is a photo mask  
for patterning a gate line, and the second photo mask is a photo mask for patterning a data  
line.

9. A photo mask set for patterning a lightning pattern comprising:  
a first photo mask including;

DC:78980.1

a shorting bar pattern and a plurality of pad patterns,  
an outer lightning rod pattern connected to the shorting bar pattern,  
an inner lightning rod pattern connected to the pad pattern, and  
projections from each of the outer and inner lightning rod patterns, and a fine

5 pattern connected between centers of the projections; and,

a second photo mask having a contact hole at a position matched to the fine pattern  
on the first photo mask.

10. A photo mask set as claimed in claim 9, wherein the first photo mask is a photo mask  
for patterning a gate line, and the second photo mask is a photo mask for patterning a pixel  
electrode.

11. A photo mask for a liquid crystal display (LCD) panel, comprising:  
first and second pad patterns for signal lines of the LCD panel;  
first and second inner lightning rod patterns, each connected to a corresponding one  
of the first and second pad patterns;

first and second inner lightning rod projections each extending from and connected to  
a corresponding one of the first and second inner lightening rod patterns;

first and second outer lightning rod patterns;

20 first and second outer lightning rod projections each extending from and connected to  
a corresponding one of the first and second outer lightening rod patterns;

a shorting bar connected to the first and second outer lightning rod patterns;

first and second fine patterns each connecting a corresponding one of the first and  
second inner lightening rod projections to a corresponding one of the first and second outer

25 lightening rod projections; and

DC:78980.1

a redundancy fine pattern connected between the first and second pad patterns.

12. A photo mask for a liquid crystal display (LCD) panel, comprising:

a pad pattern for a signal line of the LCD panel;

an inner lightning rod pattern connected to pad pattern;


an inner lightning rod projection extending from and connected to the inner  
lightening rod pattern;

an outer lightning rod pattern;

an outer lightning rod projection extending from and connected to the outer  
lightening rod pattern;

a shorting bar connected to the outer lightning rod pattern; and

a fine pattern connecting the inner lightening rod projection to the outer lightening  
rod projection, wherein a length of the fine pattern is substantially greater than a distance  
between the inner and outer lightening rod projections.

13. The photo mask of claim 12, wherein the fine pattern has a shape of “”

14. A photo mask for a liquid crystal display (LCD) panel, comprising:

a pad pattern for a signal line of the LCD panel;

a first inner lightning rod pattern connected to pad pattern;

a first inner lightning rod projection extending from and connected to the first inner  
lightening rod pattern;

a first outer lightning rod pattern;

a first outer lightning rod projection extending from and connected to the first outer

lightening rod pattern;

DC:78980.1

a second inner lightning rod pattern connected to the first outer lightning rod pattern;  
a second inner lightning rod projection extending from and connected to the second  
inner lightening rod pattern;

a second outer lightning rod pattern;

5 a second outer lightning rod projection extending from and connected to the second  
outer lightening rod pattern;

a shorting bar connected to the second outer lightning rod pattern;

a first fine pattern connecting the first inner lightening rod projection to the first outer  
lightening rod projection; and

10 a second fine pattern connecting the second inner lightening rod projection to the  
second outer lightening rod projection.

15. A photo mask for a liquid crystal display (LCD) panel, comprising:

a pad pattern for a signal line of the LCD panel;

an inner lightning rod pattern connected to pad pattern;

an inner lightning rod projection extending from and connected to the inner  
lightening rod pattern;

an outer lightning rod pattern;

an outer lightning rod projection extending from and connected to the outer

20 lightening rod pattern;

a shorting bar connected to the outer lightning rod pattern; and

a fine pattern connecting the inner lightening rod projection to the outer lightening  
rod projection, wherein a the fine pattern extends from a center of the inner lightening rod  
projection to a center of to the outer lightening rod projection.

16. A photo mask set for a liquid crystal display (LCD) panel, comprising:
- a first photo mask, including,
- a pad pattern for a signal line of the LCD panel;
  - an inner lightning rod pattern connected to pad pattern;
  - 5 an inner lightning rod projection extending from and connected to the inner lightning rod pattern;
  - an outer lightning rod pattern;
  - an outer lightning rod projection extending from and connected to the outer lightning rod pattern;
  - 10 a shorting bar connected to the outer lightning rod pattern; and
  - a fine pattern connecting the inner lightning rod projection to the outer lightning rod projection; and
  - 15 a second photo mask, including a pattern for a contact hole located at a position corresponding to a location of the fine pattern on the first photo mask.

000003966-062001